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5 April 1957

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Dear

Enclosed is our Proposal for Extended Test Program on Clam, 1210-C-10. We hope the proposed test program meets with your approval. Please do not hesitate to call on us if you have any questions.

Regards,

Frank

FRP:PGS:dbb

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**April 5, 1957**

**P R O P O S A L**  
**FOR**  
**EXTENDED TEST PROGRAM ON CLAM**

**1210-C-10**

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The original proposal for the Clam included "Final Testing" of one-hundred (100) units at operational and climatic extremes. Because many of the desirable features of the new design are more or less radical departures from units previously produced, it now appears advisable to expand this final testing as indicated in the definitive Proposed Test Program attached.

It is proposed that the Clam, Task 1210-C-10 be extended from April 30, 1957 to June 30, 1957 with additional funds as shown in the Cost Estimate.

-2-

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Proposed Test Program

- 1.A. A minimum of 200 units will be loaded with proper igniting train and composition C-4 explosive. Each unit will be tested at ambient temperature to determine reliability of the item.

2. Durability Test

- A. A minimum of ten (10) units will be assembled with delay pencils and detonators. The explosive compartment will be filled with clay to simulate the weight of the explosive. The unit will then be dropped from a height of five (5) feet in order to determine whether or not the compartment lid, detonators and delay pencils remain in position after hitting the ground.
- B. A minimum of ten (10) units, assembled as per paragraph 2A, will be subjected to vibration tests. Each unit will be tested at various cycles ranging from 0 - 60 cycles for one hour. The purpose of this test will be to determine whether or not the pencils, detonators and magnet assembly are likely to be dislodged due to excessive vibration.
- C. A minimum of ten (10) units, assembled as per paragraph 2B, will be placed in various positions on a vehicle. The vehicle will be driven over the area roads in order to establish whether or not the magnet assembly will hold the unit to the truck when subjected to rough road conditions. A second vehicle will follow and observe.
- D. The magnet and spring mounting assembly will be inspected for signs of fatigue after undergoing test as outlined in paragraphs 2B and 2C.

3. Climatic Conditions

- A. A minimum of fifty (50) units, assembled with delay pencils, detonators, and payload cover in position will be immersed in 1 foot of water for 24 hours. The payload compartment will then be inspected for water tightness before firing.
- B. A minimum of fifty (50) units will be assembled as per paragraph 2B, except that the payload compartment will be filled with Composition C-4. These units will then be subjected to -60 Deg. F for three (3) hours, then

-3-

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removed and placed immediately in a test chamber having a temperature of 160 Deg. F for three (3) hours. The units will be removed and allowed to reach ambient temperature before testing. The units will be tested as in paragraph 1A.

- C. A minimum of 10 units will be assembled with delay pencils and detonators in position and subjected to 120 Deg. F at 90 per cent relative humidity for 24 hours. The units will be removed and tested within one hour.

#### 4. Destructive Test

- A. A minimum of ten (10) units will be prepared and placed on a 1' by 1' by 1/4" mild steel plate mounted in a vertical position. Each unit will be fired to determine efficiency.
- B. Test 4A will be repeated, increasing the thickness of the steel plate in increments of 1/4 inch, providing the explosive force causes a fracture in each preceding specimen.

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COST ESTIMATE

Purchased Parts and Materials	\$ 750.00
Tests, Jigs and Fixtures	325.00
Miscellaneous	100.00
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Sub Total	\$1,175.00
 <u>Labor</u>	
80 Engineering hours @ \$5.50/hr.	280.00
615 Technician hours @ \$2.50/hr.	1,537.50
Overhead, 43%	781.52
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Sub Total	\$3,774.02
 Fee, 8%	 301.92
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Total	\$4,075.94

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-5-  
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